PERMIT APPLICATIONS
AND
ACCOMPANING CORRESPONDANCE

Attachment H

Information Request #4

Hecla Mining Company

Enclosure A

Environmental Protection Agency, Region VIII
Waste Management Division (8HWM-ON)
999 - 18th Street, Suite 1300
Denver, Colorado 80202-2413

Attn: Mr. Jon Minkoff

Dear Sirs:

Please find enclosed a Part A Application for the Apex Unit of Hecla Mining Company. This facility is considered to be newly regulated because of the March 1, 1990, effective date of the Mineral Processing Rules (40 CFR 261). Further, we are an existing facility and have therefore applied for interim status. This facility was initially constructed and operated by another company in the mid-to late-1980's; we began reconstruction of the facility April 3, 1989, which is the date shown in Section II.A. of Form 3.

We would appreciate your acknowledgement of receipt of this application by signing and returning the duplicate of this letter. We are available to answer questions regarding this submittal; I can be reached at (208) 769-4100.

Very truly yours,

Larry A. Drew
Manager - Environmental Affairs

LAD:dld

Enclosure

cc: Delene Thomas
State of Utah
Bureau of Solid and Hazardous Waste

Application Received by EPA

Date 2/26/90

DAVIS, GRAHAM & STUBBS
ATTORNEYS AT LAW

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May 8, 1990

VIA HAND DELIVERY

Mr. Terry Anderson
U.S. Environmental Protection Agency,
Region VIII
999 Eighteenth Avenue, Suite 600
Denver, Colorado 80202

Ms. Sylvia Lowrance
Director, Office of Solid Waste
U.S. Environmental Protection Agency
401 M Street S.W., Room M 2101 (OS-300)
Washington, D.C. 20460

Re: Hecla Mining Company - Apex Facility

Dear Mr. Anderson and Ms. Lowrance:

We are writing on behalf of our client, Hecla Mining Company ("Hecla"), concerning the regulatory status under the Resource Conservation and Recovery Act of its Apex Mill facility (the "Facility") near St. George, Utah. The Facility uses ore from the nearby Apex Mine for the recovery of copper, germanium and gallium. Based on the U.S. Environmental Protection Agency's ("EPA's") definition of beneficiation, Hecla has concluded that the activities at the Facility constitute beneficiation operations. Given preamble language in the September 1, 1989 final rule on the mining waste exclusion, however, some uncertainty may exist concerning the regulatory status of the acid leaching operation at the Facility. Consequently, Hecla is seeking EPA's confirmation of Hecla's conclusion that the leaching operation at the Facility is a beneficiation operation. Hecla needs written confirmation from EPA because of the obvious risks and burdens associated with an after-the-fact determination to the contrary. Therefore, this letter (1) provides a summary of the Facility's operation, the materials used and the products produced; (2) describes why the acid leaching operation is a

beneficiation operation; and (3) seeks a written confirmation from EPA of Hecla's conclusion.

Description of the Facility's Operation.

Enclosed you will find a summary and flowsheet of the Facility's milling operation for recovery of copper, sodium germanate and gallium. As noted in the summary and on the flowsheet, the basic operational steps are as follows:

1. The ore is mixed with water and then crushed in a ball mill. The ground slurry overflows out of the ball mill over a vibrating screen, which separates large pieces of rock from the slurry.

2. The ground slurry then goes through a series of acid leaching circuits. Between each circuit, the slurry flows into a thickener tank. The overflow solution from the first thickener tank is sent to the solvent extraction circuits to remove the various metals. The solvent extraction circuits are described below. The slurry that does not go to the solvent extraction circuits is subjected to further leaching and ultimately is sent to a belt filter, which washes the material and separates the filtrate, which is utilized in the leaching operation, from the tailings. The tailings go to the neutralization circuit and then into a tailings pond.

3. The overflow solution from the first thickener passes through a clarifier and then through a series of recovery systems. The recovery systems use solvent extraction and electrowinning mechanisms to extract the copper, gallium and sodium germanate, respectively. The waste material produced during the extraction processes is neutralized. This treated material is mixed with the tailings during neutralization and then sent to a tailings pond.

To summarize, the following activities occur at the Facility: grinding, washing, sorting, filtration, solvent extraction, electrowinning and precipitation. Based on EPA's definition of beneficiation, as set forth in the January 23, 1990 final rule, Hecla concludes that these are activities EPA has determined to constitute beneficiation. See 55 Fed. Reg. 2322,

2353 (Jan. 23, 1990).[1/] Given the language in the September 1, 1989 final rule that operations using acid may in some instances be processing operations, the only activity of potential regulatory concern at the Facility is the acid leaching operation.

The Leaching Operation is a Beneficiation Operation.

After a careful review of the proposed and final mining waste exclusion rules, Hecla concludes that the Facility's leaching operation falls within the definition of beneficiation. Hecla bases this conclusion on the following: (1) the leaching operation concentrates the valuable mineral constituents; (2) the solid waste stream generated during the leaching operation is earthen in character and is physically and chemically similar to the ore from the Apex Mine, except that the valuable mineral constituents have been removed; and (3) the leaching operation is exactly the type of activity EPA envisioned as constituting beneficiation.

1/ The list of beneficiation activities set forth in the January 23, 1990 final rule includes the following:

> Crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing; briquetting; calcining to remove water and/or carbon dioxide; roasting, autoclaving, and/or chlorination in preparation for leaching (except where the roasting (and/or autoclaving and/or chlorination)/leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing); gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap, dump, vat, tank, and in situ leaching.

55 Fed. Reg. 2322, 2353 (Jan. 23, 1990) (to be codified at 40 C.F.R. § 261.4(b)(7)).

1. The Leaching Operation Concentrates the Valuable Mineral Constituents.

Until recently, the distinction between the activities that constitute beneficiation and the activities that constitute processing was unclear. In attempts to clarify this distinction, EPA has on several occasions modified the definition of beneficiation and the activities it considers beneficiation. See, e.g., 53 Fed. Reg. 41288 (Oct. 20, 1988); 54 Fed. Reg. 15316 (Apr. 17, 1989); and 55 Fed. Reg. 2322 (Jan. 23, 1990). In the September 1, 1989 final rule on the mining waste exclusion, however, EPA stated "that, both functionally and legally, the most appropriate definition of beneficiation for use in distinguishing between beneficiation and processing is the definition used in the December 1985 Report to Congress (RTC) on wastes from extraction and beneficiation of ores and minerals." 54 Fed. Reg. 36592, 36617-18 (Sept. 1, 1989). In adopting the September 1, 1989 final rule, EPA concluded that it should broaden its regulatory definition to encompass all activities covered by the RTC. As EPA noted, the RTC defines beneficiation as "'the treatment of ore to concentrate its valuable constituents'." 54 Fed. Reg. at 36618 (citing the RTC at D-1).

Concentrating the valuable mineral constituents is exactly what occurs during the Facility's leaching operation. Therefore, this criterion supports Hecla's conclusion that the Facility's leaching operation is a beneficiation operation.

2. The Solid Waste Stream Generated During the Leaching Operation is Earthen in Character and is Physically and Chemically Similar to the Ore.

As EPA noted in the September 1, 1989 final rule, one distinction between beneficiation and processing is the nature of the waste stream generated by each. 54 Fed. Reg. at 36619. Specifically, EPA stated the following:

> Most beneficiation processes . . . generate high volume solid waste streams that are essentially earthen in character. Despite the fact that valuable constituents have been removed, the remaining material is often physically and chemically similar to the material (ore or mineral) that entered the operation, except that particle size reduction has often occurred.

Id.

As noted above and described in more detail in the enclosed summary, the leaching operation generates a liquid component, which contains the valuable mineral constituents, and a solid component (or tailings). The liquid component or solution continues through the Facility's other beneficiation activities (e.g., solvent extraction and electrowinning). The tailings are washed, filtered (to remove any remaining solution) and eventually placed in the tailings ponds. The tailings are earthen in character. Furthermore, the physical and chemical composition of the tailings is similar to the ore that was shipped to the Facility, except that the valuable mineral constituents have been removed. Accordingly, the "nature of the waste stream" criterion provides additional support for Hecla's conclusion that the Facility's leaching operation constitutes beneficiation.

3. The Leaching Operation is the Type of Activity EPA Envisioned as Constituting Beneficiation.

In preparing the RTC and in promulgating the mining waste exclusion rules, EPA considered leaching activities to fall within the beneficiation category and considered the wastes generated during the leaching activities to constitute beneficiation waste. For example, EPA noted in the September 1, 1990 final rule that "the RTC explicitly includes leaching operations as an integral part of the extraction and beneficiation domain. . . ." 54 Fed. Reg. at 36618 (citing the RTC at 2-16, D-4). See also 54 Fed. Reg. at 36619 ("EPA does not wish to include operations already established to be beneficiation operations (e.g., leaching, phosphate rock beneficiation) within the domain of mineral processing. . . ."); and 54 Fed. Reg. 15316, 15324 (Apr. 17, 1989) ("EPA has clearly considered leaching to be a beneficiation operation. . . ."). Finally, the list of beneficiation activities in the January 23, 1990 and September 1, 1990 final rules explicitly includes vat and tank leaching. See 55 Fed. Reg. 2322, 2353.(Jan. 23, 1990); and 54 Fed. Reg. 36592, 36641 (Sept. 1, 1990). Because the Facility's leaching operation is a vat and tank leaching operation, it constitutes beneficiation.

Conclusion.

Because the leaching operation at the Facility concentrates the valuable mineral constituents, generates a solid waste stream that is earthen in character and physically and chemically similar to the ore that enters the operation, and is precisely the type of operation included within EPA's

beneficiation definition, Hecla concludes that the acid leaching operation at the Facility is a beneficiation operation. Given that some uncertainty about the regulatory status of the Facility's leaching operation may exist, however, Hecla requests that EPA provide a written confirmation of Hecla's conclusion.

If you have any questions concerning this letter or the enclosed materials, please contact one of us. In any case, we will contact you within a week to discuss the necessity and desirability of a meeting with you to provide any necessary clarification and to ensure an expeditious resolution of this matter.

Sincerely yours,

Jeffrey B. Groy

Jeffrey B. Groy
Elizabeth H. Temkin
for
DAVIS, GRAHAM & STUBBS

cc: Michael B. White, Esq.
Larry Drew
Larry Wapinsky
Dan Derkics

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2405

JUL 19 1990

RECEIVED
JUL 23 '90

Ref: 8HWM-RI

Jeffrey B. Groy
Elizabeth H. Temkin
Davis, Graham & Stubbs
Attorneys at Law
Suite 4700
370 Seventeenth Street
Denver, Colorado 80201-0185

CONTROL NUMBER 8HWM-90-86

Dear Mr. Groy and Ms. Temkin:

The U.S. Environmental Protection Agency, Region VIII has received your letter dated May 8, 1990, requesting EPA's confirmation of Hecla Mining Company's (Hecla) conclusion that the acid leaching activity occurring at Hecla's Apex Facility constitutes beneficiation under the RCRA regulations.

We have reviewed the information presented in your May 8th letter which prompted Hecla to reach its above stated conclusion. Based solely on this information, we agree that the acid leaching operation at the Apex facility constitutes beneficiation. Therefore, the waste generated from this operation is not a hazardous waste as defined by RCRA Subtitle C regulations. Please note that our conclusion is applicable only to the Apex facility and only if the acid leaching process is operated as described in your May 8th letter.

We may, of course, need to reconsider our evaluation of the status of this waste in light of newly received information or of newly promulgated RCRA regulations. In addition, EPA may wish to visit the facility at some time in the future to review the operations at the Apex facility in depth to develop data pertaining to the characterization of this operation as mineral beneficiation.

If you have any questions regarding this letter, please call Terry Brown at (303) 293-1823.

Sincerely yours,

Robert L. Duprey, Director
Hazardous Waste Management Division

L. Drew

Hecla Mining Company

November 13, 1990

Mr. Robert Duprey, Director
Hazardous Waste Management Division (8HWM-ON)
Environmental Protection Agency, Region VIII
999 - 18th Street, Suite 1300
Denver, Colorado 80202-2413

RE: Withdrawal of RCRA Part A Permit Application for the Apex Unit, EPA Identification Number UTD982589848

Dear Mr. Duprey:

As was stated in your letter dated July 19, 1990, the EPA has concluded that the operations conducted at the Apex Facility (described to the EPA in a letter from Davis, Graham, and Stubbs, dated May 8, 1990) are considered "beneficiation" activities under the RCRA regulations. Therefore, the waste generated from the ore and mineral beneficiation activities is not considered to be a hazardous waste as defined in the RCRA Subtitle C Regulations.

Based on this above stated information, we are writing this letter to withdraw the Part A permit application for the Apex Facility, dated February 23, 1990.

Very truly yours,

Ralph R Noyes

Ralph R Noyes
Vice President Metal Mining

LAD:csm

cc: Delene Thomas - ST of UT
Bureau of Solid and Hazardous Waste
Terry Anderson - EPA
Terry Brown - EPA